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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/586,601	06/02/2000	Shuji Ono	3562-0103P	6153

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Birch Stewart Kolasch & Birch LLP
P O Box 747
Falls Church, VA 22040-0747

EXAMINER	
TRAN, NHAN T	
ART UNIT	PAPER NUMBER
2622	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/586,601	ONO, SHUJI	
	Examiner	Art Unit	
	Nhan T. Tran	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 July 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-4,6,12-14,16-20,23-27,29 and 30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-4,6,12-14,16-20,23-27,29 and 30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 2-4, 6, 12-14, 16-20, 23-27 & 29-30 have been considered but are moot in view of the new ground of rejection in view of new interpretation of Kung et al.

Additionally, the Examiner would like to address the Applicant's arguments on pages 8-9 of remarks, where the Applicant asserts that Kung fails to teach or suggest compositing a plurality of desired objects to form a composite image.

In response, the Examiner respectfully disagrees with the Applicant's assessment of Kung. As shown in col. 4, lines 55-64 of Kung, the composite image is formed by normalizing and reconditioning the images of desirable aimed objects (i.e., eyes, eyebrows and nose). It should be noted that "aimed objects" and "desireable aimed objects" are considered as the same objects of the captured image because the claims do not distinguish the difference between these objects. Thus, the claimed limitations are still broad enough to read on the teaching of Kung.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 2-4, 6, 12-14, 16-20, 23-27 & 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kung et al (US 5,850,470) in view of Iijima et al (US 6,823,080 B2).

Regarding claim 2, Kung discloses an image selecting apparatus (10) from among a plurality of images (video images of an arbitrary scene 11) obtained by continuously photographing a subject (see Fig. 1; col. 4, lines 1-54), comprising:

an extractor (14, 18, 22) extracting data of an aimed object (at least one of face, eyes, eyebrows and nose) from each of said plurality of images, said aimed object corresponding to an independent object (e.g., eyes) within the image (within the image scene 11) at which a photographer aims (see Fig. 1; col. 4, lines 1-54);

a condition-storing unit (face database 16, eye database 20, person database 26) storing a plurality of predetermined selection conditions (predetermined face features, eyes features, etc.) for a desirable aimed object (i.e., eyes, eyebrows or nose), each of the stored predetermined selection condition being specified by a user (Fig. 1; col. 4, line 1 – col. 5, line 26; note that the predetermined selection conditions have been specified by the user in advance when the databases were created);

a selecting unit (18, 22, 24) selecting at least one selection condition (i.e., at least eyes features stored in eye database 20 for recognizing various different eyes) from among the plurality of predetermined selection conditions resulting in a selection of a desired image (a desired image having a person's face is selected for further processing after face detector 14) including a desired aimed object from among said

plurality images, said desired aimed object satisfying said at least one selection condition (i.e., the extracted eyes as desirable aimed object matches eyes features in the databases) stored in said condition-storing unit (see col. 4, lines 24-54);

said extractor extracts data of a plurality of said aimed objects (i.e., eyes, eyebrows and nose) from each of said plurality of images (video images), said selecting unit selects a plurality of said desired aimed objects (the same eyes, eyebrows and nose as said aimed objects) for each of said plurality of images, and said selecting unit further comprises an image-composite unit (Fig. 1) compositing said plurality of desired aimed objects to form a composite image (a normalized and reconditioned image of 140 x 100 pixels shown in Fig. 1), said composite image including said plurality of desired aimed objects (eyes, eyebrows, and nose) for each of said plurality of aimed objects extracted from said plurality of images (see col. 4, lines 55-64).

Kung does not teach that said extractor extracts said data of aimed object based on depth information indicating the distance from the photographer's camera to at least one part of said subject.

However, as taught by Iijima, an imaging system comprises an extractor (image separator 105, Fig. 3B) for extracting data of an aimed object (object 2, Fig. 2) based on depth information (i.e., focal length of imaging system) indicating a distance (by virtue of focal length value f) from the photographer's camera to at least one part of said subject (Iijima, col. 13, line 64 – col. 14, line 45). Iijima suggests that data of an aimed object is precisely extracted by using the depth information as shown in col. 14, lines 30-45.

Therefore, it would have been obvious to one of ordinary skill in the art to modify the imaging apparatus of Kung in view of the teaching of Iijima such that the extractor extracts said data of aimed object based on depth information indicating the distance from the photographer's camera to at least one part of said subject. Doing this would improve extraction of an aimed object with a high precision for further processing as suggested by Iijima above.

Regarding claim 3, Kung in view of Iijima also discloses that the extractor extracts said data of said aimed object based on image information included in each of said images (see Kung, col. 4, lines 14-54).

Regarding claim 4, Kung in view of Iijima also discloses that the extractor detects a judgment location (i.e., eye coordinates) from said data of said aimed object based on image information included in each of said images (Kung, col. 4, lines 35-54), said at least one selection condition includes a predetermined selection condition (i.e., coordinates of various different eyes stored in the eye database 20) related to a desirable judgment location, and said selecting unit selects said desired aimed object including a judgment location satisfying said at least one selection condition related to said desirable judgment location (for the person to be recognized). See Kung, col. 4, lines 35-54 and col. 5, lines 10-15.

Regarding claim 6, the limitations are also met by the analyses of claims 1 & 4.

Regarding claims 12-14 & 16, the method claims are also met by the analyses of claims 2-4 & 6, respectively.

Regarding claim 17, Kung in view of Iijima discloses all limitations of claim 17 as discussed in claim 2. Furthermore, Iijima teaches microcomputer (900 shown in Fig. 4) that executes a program stored in a recording medium (910 shown in Fig. 4) for controlling the operation of the imaging system (see Iijima, col. 12, lines 42-45). Such implementation of a program would enhance system flexibility for upgrading without future modification of hardware circuitry.

Therefore, it would have been obvious to one of ordinary skill in the art to modify the imaging apparatus in Kung in view of the teaching of Iijima by using a program stored in a memory which is to be executed by a microprocessor for processing images so as to enhance system flexibility for upgrading without future modification of hardware circuitry.

Regarding claim 18, it is clear that the conditions relate to at least one of shape or size of eyes or nose of the aimed object (see Kung, col. 4, lines 24-54).

Regarding claim 19, Kung also discloses that at least one predetermined selection condition relates to expression of said aimed object for identifying said desired aimed object. See Kung, Fig. 1 and col. 4, lines 24-54, wherein expression of the aimed

object is indicated by the shape or size of the eyes, eyebrows or nose in a normal expression.

Regarding claim 20, it is also clear that the selecting unit selects said desired image without an operation of a user (automatic face recognition; see Kung, col. 4, lines 1-3).

Regarding claims 23-26, see the analyses of claims 19 & 20.

Regarding claims 27 & 29, as seen in Kung, Fig. 1 and col. 4, lines 1-64, at least one of the predetermined conditions (i.e., at least one of eyes features) is selected by the user in advance (during setting the eye database 20) from a plurality of potential selection conditions (i.e., faces, noses and other eyes features).

Regarding claim 30, see the analysis of claim 27.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (571) 272-7371. The examiner can normally be reached on Monday - Friday, 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NHAN T. TRAN
Patent Examiner